Author index for papers in Volume 40

Pages are numbered consecutively through the volume: 1–136, January; 137–280, March; 281–374, May; 375–508, July; 509–588, September; and 589–682, November.

Amano, T.
341 see Yamashita, A.

Aono, M.
185 see Ohbuchi, R.

Apte, J. M.
431 see Sayah, J. Y.

Arnett, P. C.
311 see McDaniel, T. W.

Asthana, P., B. I. Finkelstein, and A. A. Fennema
543 *Rewritable optical disk drive technology*

Bednar, T. R., R. A. Piro, D. W. Stout, L. Wissel, and P. S. Zuchowski
377 *Technology-migratable ASIC library design*

Berry, M. S.
475 see Poli, D. J.

Bishop, J. W., M. J. Campion, T. L. Jeremiah, S. J. Mercier, E. J. Mohring, K. P. Pfarr, B. G. Rudolph, G. S. Still, and T. S. White
495 *PowerPC AS A10 64-bit RISC microprocessor*

Bollinger, S. W.
431 see Sayah, J. Y.

Boyle, L. E.
139 see Mintzer, F. C.

Brand, D.
407 see Stok, L.

Brown, L. M. G.
163 see Taylor, R. H.

Burton, D. A., and B. McNutt
331 *Storage control cache resource management: Increasing diversity, increasing effectiveness*

Campion, M. J.
495 see Bishop, J. W.

Cazes, A. N.
139 see Mintzer, F. C.

Chao, H. H.
407 see Stok, L.

Chen, H. H.
431 see Sayah, J. Y.

Cheng, J.-M., L. M. Duyanovich, and D. J. Craft
603 *A fast, highly reliable data compression chip and algorithm for storage systems*

Chin, B.
3 see Ziegler, J. F.

Chiu, A., I. Croll, D. E. Heim, R. E. Jones, Jr., P. Kasiraj, K. B. Klaassen, C. D. Mee, and R. G. Simmons
283 *Thin-film inductive heads*

Christian, B. S.
139 see Mintzer, F. C.

Coppersmith, D., D. B. Johnson, and S. M. Matyas
253 *A proposed mode for triple-DES encryption*

Cox, S. C.
139 see Mintzer, F. C.

Craft, D. J.
603 see Cheng, J.-M.

Croll, I.
283 see Chiu, A.

Curtis, H. W.
41 see O'Gorman, T. J.

Curtis, H. W.
3 see Ziegler, J. F.

Curtis, H. W.
51 see Ziegler, J. F.

DasGupta, S.
431 see Sayah, J. Y.

Drumm, A. D.
407 see Stok, L.

Duyanovich, L. M.
603 see Cheng, J.-M.

Engel, J. J., T. S. Guzowski, A. Hunt, D. E. Lackey, L. D. Pickup, R. A. Proctor, K. Reynolds, A. M. Rincon, and D. R. Stauffer
387 *Design methodology for IBM ASIC products*

Enger, T. A.
3 see Ziegler, J. F.

Fennema, A. A.
543 see Asthana, P.

Finkelstein, B. I.
543 see Asthana, P.

Freeman, L. B.
119 *Critical charge calculations for a bipolar SRAM array*

Freeman, L. B.
3 see Ziegler, J. F.

Funda, J.
163 see Taylor, R. H.

Geiger, D. J.
407 see Stok, L.

Gianos, C., and D. Hobson
485 *Design considerations for Digital's PowerStorm graphics processor*

Gillis, P. S., T. S. Guzowski, B. L. Keller, and R. H. Kerr
461 *Test methodologies and design automation for IBM ASICs*

Giordano, F. P.
139 see Mintzer, F. C.

Gladney, H. M.
139 see Mintzer, F. C.

Gomory, S. H.
163 see Taylor, R. H.

Gopisetty, S., R. Lorie, J. Mao, M. Mohiuddin, A. Sorin, and E. Yair
211 *Automated forms-processing software and services*

Gueziec, A. P.
163 see Taylor, R. H.

Gupta, R.
431 see Sayah, J. Y.

Guzowski, T. S.
387 see Engel, J. J.

Guzowski, T. S.
461 see Gillis, P. S.

Habra, R. R.
453 see Hathaway, D. J.

Haider, S. W.
231 see Lee, H. S.

Hathaway, D. J., R. R. Habra, E. C. Schanzenbach, and S. J. Rothman
453 *Circuit placement, chip optimization, and wire routing for IBM IC technology*

Heim, D. E.
283 see Chiu, A.

Hieter, N.
407 see Stok, L.

Hirayama, Y.
341 see Yamashita, A.

Hobson, D.
485 see Gianos, C.

Honsinger, P. S.
431 see Sayah, J. Y.

Hosier, P.
3 see Ziegler, J. F.

Hsieh, E. P.
431 see Sayah, J. Y.

Huber, A. D.
431 see Sayah, J. Y.

Hughes, E. J.
431 see Sayah, J. Y.

Hunt, A.
387 see Engel, J. J.

Itoh, N.
341 see Yamashita, A.

Jeremiah, T. L.
495 see Bishop, J. W.

Jessani, R. M., and C. H. Olson
559 *The floating-point unit of the PowerPC 603e microprocessor*

Johnson, D. B.
253 see Coppersmith, D.

Johnson, K. E., C. M. Mate, J. A. Merz, R. L. White, and A. W. Wu
511 *Thin-film media—Current and future technology*

Jones, R. E., Jr.
283 see Chiu, A.

Joskowicz, L.
163 see Taylor, R. H.

Judd, I. D., P. J. Murfet, and M. J. Palmer
591 *Serial Storage Architecture*

Kalvin, A. D.
163 see Taylor, R. H.

Kan, T., D. B. Lawson, O. J. Ruiz, and C. F. Sermon
615 *The past and present roles of computer-aided engineering in DASD design*

Kasiraj, P.
283 see Chiu, A.

Katoh, S.
341 see Yamashita, A.

Keller, B. L.
461 see Gillis, P. S.

Kelmanson, M. L.
139 see Mintzer, F. C.

Kerr, R. H.
461 see Gillis, P. S.

Kimura, M.
185 see Ohbuchi, R.

Kishi, G. T.
301 *The IBM 3495 robotics and vision system*

Klaassen, K. B.
283 see Chiu, A.

Klein, W. A.
3 see Ziegler, J. F.

Koide, A.
185 see Ohbuchi, R.

Kruchowski, J. N.
475 see Poli, D. J.

Kung, D. S.
407 see Stok, L.

Kurzum, Z. M.
431 see Sayah, J. Y.

Lackey, D. E.
387 see Engel, J. J.

LaFave, L. E.
3 see Ziegler, J. F.

Lawson, D. B.
615 see Kan, T.

Lee, H. S., S. S. Murthy, S. W. Haider, and D. V. Morse
231 *Primary production scheduling at steelmaking industries*

Lee, J. C.
139 see Mintzer, F. C.

Lirani, A. C.
139 see Mintzer, F. C.

Lorie, R.
211 see Gopisetty, S.

Magerlein, K. A.
139 see Mintzer, F. C.

Mano, T.
341 see Yamashita, A.

Mao, J.
211 see Gopisetty, S.

Mate, C. M.
511 see Johnson, K. E.

Matyas, S. M.
253 see Coppersmith, D.

McDaniel, T. W., and P. C. Arnett
311 *Optical data storage media*

McNutt, B.
331 see Burton, D. A.

Mee, C. D.
283 see Chiu, A.

Mercier, S. J.
495 see Bishop, J. W.

Merz, J. A.
511 see Johnson, K. E.

Messina, B.
3 see Ziegler, J. F.

Mintzer, F. C., L. E. Boyle, A. N. Cazes, B. S. Christian, S. C. Cox, F. P. Giordano, H. M. Gladney, J. C. Lee, M. L. Kelmanson, A. C. Lirani, K. A. Magerlein, A. M. B. Pavani, and F. Schiattarella
139 *Toward on-line, worldwide access to Vatican Library materials*

Miyazawa, T.
185 see Ohbuchi, R.

Mohiuddin, M.
211 see Gopisetty, S.

Mohring, E. J.
495 see Bishop, J. W.

Montrose, C. J.
41 see O'Gorman, T. J.

Montrose, C. J.
3 see Ziegler, J. F.

Montrose, C. J.
51 see Ziegler, J. F.

Morse, D. V.
231 see Lee, H. S.

Muhlfeld, H. P.
41 see O'Gorman, T. J.

Muhlfeld, H. P.
3 see Ziegler, J. F.

Muhlfeld, H. P.
51 see Ziegler, J. F.

Murfet, P. J.
591 see Judd, I. D.

Murley, P. C., and G. R. Srinivasan
109 *Soft-error Monte Carlo modeling program, SEMM*

Murthy, S. S.
231 see Lee, H. S.

Nicewicz, M.
3 see Ziegler, J. F.

O'Gorman, T. J., J. M. Ross, A. H. Taber, J. F. Ziegler, H. P. Muhlfeld, C. J. Montrose, H. W. Curtis, and J. L. Walsh
41 *Field testing for cosmic ray soft errors in semiconductor memories*

O'Gorman, T. J.
3 see Ziegler, J. F.

O'Gorman, T. J.
51 see Ziegler, J. F.

Ohbuchi, R., T. Miyazawa, M. Aono, A. Koide, M. Kimura, and R. Yoshida
185 *Integrated medical-image system for cancer research and treatment*

Olson, C. H.
559 see Jessani, R. M.

Orro, J. M.
3 see Ziegler, J. F.

Osler, P. J.
407 see Stok, L.

Palmer, M. J.
591 see Judd, I. D.

Pavani, A. M. B.
139 see Mintzer, F. C.

Pfarr, K. P.
495 see Bishop, J. W.

Pickup, L. D.
387 see Engel, J. J.

Piro, R. A.
377 see Bednar, T. R.

Poli, D. J., M. S. Berry, and J. N. Kruchowski
475 *IC technology and ASIC design for the Cray J90 supercomputer*

Proctor, R. A.
387 see Engel, J. J.

Rao, V. B.
431 see Sayah, J. Y.

Reddy, L. N.
407 see Stok, L.

Reynolds, K.
387 see Engel, J. J.

Rincon, A. M.
387 see Engel, J. J.

Ross, J. M.
41 see O'Gorman, T. J.

Ross, J. M.
3 see Ziegler, J. F.

Ross, J. M.
51 see Ziegler, J. F.

Rothman, S. J.
453 see Hathaway, D. J.

Rudolph, B. G.
495 see Bishop, J. W.

Ruiz, O. J.
615 see Kan, T.

Russell, C. A.
3 see Ziegler, J. F.

Saunders, P. A.
73 see Ziegler, J. F.

Sayah, J. Y., R. Gupta, D. D. Sherlekar, P. S. Honsinger, J. M. Apte, S. W. Bollinger, H. H. Chen, S. DasGupta, E. P. Hsieh, A. D. Huber, E. J. Hughes, Z. M. Kurzum, V. B. Rao, T. Tabtieng, V. Valijan, and D. Y. Yang
431 *Design planning for high-performance ASICs*

Schanzenbach, E. C.
453 see Hathaway, D. J.

Schiattarella, F.
139 see Mintzer, F. C.

Schlatter, B.
537 *Computer-aided 3D tolerance analysis of disk drives*

Schlig, E. S.
631 *Charge-metering sampling circuits and their applications*

Scott, T. S.
3 see Ziegler, J. F.

Sermon, C. F.
615 see Kan, T.

Sherlekar, D. D.
431 see Sayah, J. Y.

Simmons, R. G.
283 see Chiu, A.

Sorin, A.
211 see Gopisetty, S.

Soult, S. S.
623 *Architectural verification of advanced storage controllers*

Srinivasan, G. R.
77 *Modeling the cosmic-ray-induced soft-error rate in integrated circuits: An overview*

Srinivasan, G. R.
109 see Murley, P. C.

Stauffer, D. R.
387 see Engel, J. J.

Still, G. S.
495 see Bishop, J. W.

Stok, L., D. S. Kung, D. Brand, A. D. Drumm, A. J. Sullivan, L. N. Reddy, N. Hieter, D. J. Geiger, H. H. Chao, and P. J. Osler
407 *BooleDozer: Logic synthesis for ASICs*

Stout, D. W.
377 see Bednar, T. R.

Sullivan, A. J.
407 see Stok, L.

Sullivan, T. D.
3 see Ziegler, J. F.

Sussman, R. J.
3 see Ziegler, J. F.

Sykes, A. J.
3 see Ziegler, J. F.

Taber, A. H.
41 see O'Gorman, T. J.

Taber, A. H.
3 see Ziegler, J. F.

Tabtieng, T.
431 see Sayah, J. Y.

Tang, H. H. K.
91 *Nuclear physics of cosmic ray interaction with semiconductor materials: Particle-induced soft errors from a physicist's perspective*

Taylor, R. H., J. Funda, L. Joskowicz, A. D. Kalvin, S. H. Gomory, A. P. Gueziec, and L. M. G. Brown
163 *An overview of computer-integrated surgery at the IBM Thomas J. Watson Research Center*

Tolat, V.
3 see Ziegler, J. F.

Toyokawa, K.
341 see Yamashita, A.

Unger, G. J.
3 see Ziegler, J. F.

Valijan, V.
431 see Sayah, J. Y.

Wahaus, C. W.
3 see Ziegler, J. F.

Walsh, J. L.
41 see O'Gorman, T. J.

Walsh, J. L.
3 see Ziegler, J. F.

Wang, W. Y.
3 see Ziegler, J. F.

White, R. L.
511 see Johnson, K. E.

White, T. S.
495 see Bishop, J. W.

Wissel, L.
377 see Bednar, T. R.

Wu, A. W.
511 see Johnson, K. E.

Yair, E.
211 see Gopisetty, S.

Yamashita, A., T. Amano, Y. Hirayama, N. Itoh, S. Katoh, T. Mano, and K. Toyokawa
341 *A document recognition system and its applications*

Yang, D. Y.
431 see Sayah, J. Y.

Yoshida, R.
185 see Ohbuchi, R.

Yourke, H.
3 see Ziegler, J. F.

Zabel, T. H.
73 see Ziegler, J. F.

Ziegler, J. F.
19 *Terrestrial cosmic rays*

Ziegler, J. F., H. W. Curtis, H. P. Muhlfeld, C. J. Montrose, B. Chin, M. Nicewicz, C. A. Russell, W. Y. Wang, L. B. Freeman, P. Hosier, L. E. LaFave, J. L. Walsh, J. M. Orro, G. J. Unger, J. M. Ross, T. J. O'Gorman, B. Messina, T. D. Sullivan, A. J. Sykes, H. Yourke, T. A. Enger, V. Tolat, T. S. Scott, A. H. Taber, R. J. Sussman, W. A. Klein, and C. W. Wahaus
3 *IBM experiments in soft fails in computer electronics (1978–1994)*

Ziegler, J. F., H. P. Muhlfeld, C. J. Montrose, H. W. Curtis, T. J. O'Gorman, and J. M. Ross
51 *Accelerated testing for cosmic soft-error rate*

Ziegler, J. F., P. A. Saunders, and T. H. Zabel
73 *Portable Faraday cup for nonvacuum proton beams*

Ziegler, J. F.
41 see O'Gorman, T. J.

Zuchowski, P. S.
377 see Bednar, T. R.

Subject index for papers in Volume 40

Each index entry below is accompanied by an author's name and a page number; the author index contains the title of the paper and the names of coauthors, if any.

Subject	Author	Page
Algorithms		
A fast, highly reliable data compression chip and algorithm for storage systems	Cheng	603
Analytical models		
Computer-aided 3D tolerance analysis of disk drives	Schlatter	537
Arithmetic and logical unit design		
The floating-point unit of the PowerPC 603e microprocessor	Jessani	559
Artificial intelligence		
Primary production scheduling at steelmaking industries	Lee	231
ASICs		
BooleDozer: Logic synthesis for ASICs	Stok	407
Circuit placement, chip optimization, and wire routing for IBM IC technology	Hathaway	453
Design considerations for Digital's PowerStorm graphics processor	Gianos	485
Design methodology for IBM ASIC products	Engel	387
Design planning for high-performance ASICs	Sayah	431
IC technology and ASIC design for the Cray J90 supercomputer	Poli	475
PowerPC AS A10 64-bit RISC microprocessor	Bishop	495
Technology-migratable ASIC library design	Bednar	377
Test methodologies and design automation for IBM ASICs	Gillis	461
Beams, charged particle		
Accelerated testing for cosmic soft-error rate	Ziegler	51
IBM experiments in soft fails in computer electronics (1978–1994)	Ziegler	3
Portable Faraday cup for nonvacuum proton beams	Ziegler	73
Character recognition		
A document recognition system and its applications	Yamashita	341
Automated forms-processing software and services	Gopisetty	211
Circuit and device technology		
Charge-metering sampling circuits and their applications	Schlig	631
Circuit placement, chip optimization, and wire routing for IBM IC technology	Hathaway	453
Design considerations for Digital's PowerStorm graphics processor	Gianos	485
IC technology and ASIC design for the Cray J90 supercomputer	Poli	475
PowerPC AS A10 64-bit RISC microprocessor	Bishop	495
Test methodologies and design automation for IBM ASICs	Gillis	461
Circuit theory and analysis		
Critical charge calculations for a bipolar SRAM array	Freeman	119
The floating-point unit of the PowerPC 603e microprocessor	Jessani	559
CMOS		
BooleDozer: Logic synthesis for ASICs	Stok	407
Charge-metering sampling circuits and their applications	Schlig	631
Circuit placement, chip optimization, and wire routing for IBM IC technology	Hathaway	453
Design considerations for Digital's PowerStorm graphics processor	Gianos	485
Design methodology for IBM ASIC products	Engel	387
Design planning for high-performance ASICs	Sayah	431
IC technology and ASIC design for the Cray J90 supercomputer	Poli	475

PowerPC AS A10 64-bit RISC microprocessor — Bishop 495
Technology-migratable ASIC library design — Bednar 377
Test methodologies and design automation for IBM ASICs — Gillis 461

Codes and coding
A fast, highly reliable data compression chip and algorithm for storage systems — Cheng 603

Coding, arithmetic
A fast, highly reliable data compression chip and algorithm for storage systems — Cheng 603

Computer applications
A document recognition system and its applications — Yamashita 341
An overview of computer-integrated surgery at the IBM Thomas J. Watson Research Center — Taylor 163
Automated forms-processing software and services — Gopisetty 211
Integrated medical-image system for cancer research and treatment — Ohbuchi 185
Primary production scheduling at steelmaking industries — Lee 231
Toward on-line, worldwide access to Vatican Library materials — Mintzer 139

Computer architecture
Serial Storage Architecture — Judd 591

Computer organization and design
Serial Storage Architecture — Judd 591
The floating-point unit of the PowerPC 603e microprocessor — Jessani 559

Computer security
A proposed mode for triple-DES encryption — Coppersmith 253

Computer-aided design
BooleDozer: Logic synthesis for ASICs — Stok 407
Circuit placement, chip optimization, and wire routing for IBM IC technology — Hathaway 453
Design methodology for IBM ASIC products — Engel 387
Design planning for high-performance ASICs — Sayah 431
Technology-migratable ASIC library design — Bednar 377
The past and present roles of computer-aided engineering in DASD design — Kan 615

Computer-controlled manipulators
The IBM 3495 robotics and vision system — Kishi 301

Contamination
IBM experiments in soft fails in computer electronics (1978–1994) — Ziegler 3

Control theory and systems
Storage control cache resource management: Increasing diversity, increasing effectiveness — Burton 331

Cosmic rays
Accelerated testing for cosmic soft-error rate — Ziegler 51
Critical charge calculations for a bipolar SRAM array — Freeman 119
Field testing for cosmic ray soft errors in semiconductor memories — O'Gorman 41
IBM experiments in soft fails in computer electronics (1978–1994) — Ziegler 3
Modeling the cosmic-ray-induced soft-error rate in integrated circuits: An overview — Srinivasan 77
Nuclear physics of cosmic ray interaction with semiconductor materials: Particle-induced soft errors from a physicist's perspective — Tang 91
Soft-error Monte Carlo modeling program, SEMM — Murley 109
Terrestrial cosmic rays — Ziegler 19

Cryptography
A proposed mode for triple-DES encryption — Coppersmith 253

Data compression
A fast, highly reliable data compression chip and algorithm for storage systems — Cheng 603

Data encryption standard (DES)
A proposed mode for triple-DES encryption — Coppersmith 253

Data, structures and accessing
A fast, highly reliable data compression chip and algorithm for storage systems — Cheng 603

Data transmission
A proposed mode for triple-DES encryption — Coppersmith 253
Serial Storage Architecture — Judd 591

Databases
Integrated medical-image system for cancer research and treatment — Ohbuchi 185
Toward on-line, worldwide access to Vatican Library materials — Mintzer 139

Design automation
BooleDozer: Logic synthesis for ASICs — Stok 407
Circuit placement, chip optimization, and wire routing for IBM IC technology — Hathaway 453
Design considerations for Digital's PowerStorm graphics processor — Gianos 485
Design methodology for IBM ASIC products — Engel 387
Design planning for high-performance ASICs — Sayah 431
IC technology and ASIC design for the Cray J90 supercomputer — Poli 475
PowerPC AS A10 64-bit RISC microprocessor — Bishop 495
Technology-migratable ASIC library design — Bednar 377
Test methodologies and design automation for IBM ASICs — Gillis 461
The past and present roles of computer-aided engineering in DASD design — Kan 615

Design verification
Architectural verification of advanced storage controllers — Soult 623
Circuit placement, chip optimization, and wire routing for IBM IC technology — Hathaway 453
Design methodology for IBM ASIC products — Engel 387
Design planning for high-performance ASICs — Sayah 431
IC technology and ASIC design for the Cray J90 supercomputer — Poli 475
PowerPC AS A10 64-bit RISC microprocessor — Bishop 495
Test methodologies and design automation for IBM ASICs — Gillis 461

Digital libraries
Toward on-line, worldwide access to Vatican Library materials — Mintzer 139

Display technology
Charge-metering sampling circuits and their applications — Schlig 631

Faraday cup, portable
Portable Faraday cup for nonvacuum proton beams — Ziegler 73

Films, magnetic
Thin-film inductive heads — Chiu 283
Thin-film media—Current and future technology — Johnson 511

Films, thin
Thin-film inductive heads — Chiu 283
Thin-film media—Current and future technology — Johnson 511

Finite element analysis
The past and present roles of computer-aided engineering in DASD design — Kan 615

Handwriting recognition
A document recognition system and its applications — Yamashita 341
Automated forms-processing software and services — Gopisetty 211

I/O devices, systems, and technology
Serial Storage Architecture — Judd 591
Storage control cache resource management: Increasing diversity, increasing effectiveness — Burton 331
The IBM 3495 robotics and vision system — Kishi 301

Image processing
An overview of computer-integrated surgery at the IBM Thomas J. Watson Research Center — Taylor 163
Automated forms-processing software and services — Gopisetty 211
Toward on-line, worldwide access to Vatican Library materials — Mintzer 139

Integrated circuit design
BooleDozer: Logic synthesis for ASICs — Stok 407
Charge-metering sampling circuits and their applications — Schlig 631
Circuit placement, chip optimization, and wire routing for IBM IC technology — Hathaway 453
Critical charge calculations for a bipolar SRAM array — Freeman 119
Design considerations for Digital's PowerStorm graphics processor — Gianos 485
Design methodology for IBM ASIC products — Engel 387
Design planning for high-performance ASICs — Sayah 431
IC technology and ASIC design for the Cray J90 supercomputer — Poli 475
Modeling the cosmic-ray-induced soft-error rate in integrated circuits: An overview — Srinivasan 77
PowerPC AS A10 64-bit RISC microprocessor — Bishop 495
Soft-error Monte Carlo modeling program, SEMM — Murley 109
Technology-migratable ASIC library design — Bednar 377
Test methodologies and design automation for IBM ASICs — Gillis 461

Integrated circuits
PowerPC AS A10 64-bit RISC microprocessor — Bishop 495

Interconnection technology
Circuit placement, chip optimization, and wire routing for IBM IC technology — Hathaway 453

Logic design and technology
The floating-point unit of the PowerPC 603e microprocessor — Jessani 559

Logic synthesis
BooleDozer: Logic synthesis for ASICs — Stok 407
Design planning for high-performance ASICs — Sayah 431

LSI design automation
BooleDozer: Logic synthesis for ASICs — Stok 407
Circuit placement, chip optimization, and wire routing for IBM IC technology — Hathaway 453
Design considerations for Digital's PowerStorm graphics processor — Gianos 485
Design methodology for IBM ASIC products — Engel 387
Design planning for high-performance ASICs — Sayah 431
IC technology and ASIC design for the Cray J90 supercomputer — Poli 475
PowerPC AS A10 64-bit RISC microprocessor — Bishop 495
Technology-migratable ASIC library design — Bednar 377
Test methodologies and design automation for IBM ASICs — Gillis 461

LSSD design and testing
IC technology and ASIC design for the Cray J90 supercomputer — Poli 475

Magnetic head design
Thin-film inductive heads — Chiu 283

Magnetic head-disk interaction
Thin-film media—Current and future technology — Johnson 511

Magnetic recording
Thin-film inductive heads — Chiu — 283
Thin-film media—Current and future technology — Johnson — 511

Magnetics—studies and structures
Thin-film inductive heads — Chiu — 283
Thin-film media—Current and future technology — Johnson — 511

Magneto-optics
Optical data storage media — McDaniel — 311
Rewritable optical disk drive technology — Asthana — 543

Manufacturing
IBM experiments in soft fails in computer electronics (1978–1994) — Ziegler — 3

Materials technology
Thin-film media—Current and future technology — Johnson — 511

Measurement
Computer-aided 3D tolerance analysis of disk drives — Schlatter — 537
Portable Faraday cup for nonvacuum proton beams — Ziegler — 73

Mechanical analysis
Computer-aided 3D tolerance analysis of disk drives — Schlatter — 537

Mechanical design
The IBM 3495 robotics and vision system — Kishi — 301

Mechanics and mechanisms
The IBM 3495 robotics and vision system — Kishi — 301

Medicine and medical electronics
An overview of computer-integrated surgery at the IBM Thomas J. Watson Research Center — Taylor — 163
Integrated medical-image system for cancer research and treatment — Ohbuchi — 185

Memory, cache
Storage control cache resource management: Increasing diversity, increasing effectiveness — Burton — 331

Memory (computer) design and technology
Accelerated testing for cosmic soft-error rate — Ziegler — 51

Memory (computer) management
Storage control cache resource management: Increasing diversity, increasing effectiveness — Burton — 331

Microelectronics
BooleDozer: Logic synthesis for ASICs — Stok — 407
Circuit placement, chip optimization, and wire routing for IBM IC technology — Hathaway — 453
Design considerations for Digital's PowerStorm graphics processor — Gianos — 485
Design methodology for IBM ASIC products — Engel — 387
Design planning for high-performance ASICs — Sayah — 431
Field testing for cosmic ray soft errors in semiconductor memories — O'Gorman — 41
IBM experiments in soft fails in computer electronics (1978–1994) — Ziegler — 3
IC technology and ASIC design for the Cray J90 supercomputer — Poli — 475
PowerPC AS A10 64-bit RISC microprocessor — Bishop — 495
Technology-migratable ASIC library design — Bednar — 377
Test methodologies and design automation for IBM ASICs — Gillis — 461

Microprocessor systems and applications
The floating-point unit of the PowerPC 603e microprocessor — Jessani — 559

Models and modeling
Architectural verification of advanced storage controllers — Soult — 623
Computer-aided 3D tolerance analysis of disk drives — Schlatter — 537
Critical charge calculations for a bipolar SRAM array — Freeman — 119
Modeling the cosmic-ray-induced soft-error rate in integrated circuits: An overview — Srinivasan — 77
Nuclear physics of cosmic ray interaction with semiconductor materials: Particle-induced soft errors from a physicist's perspective — Tang — 91
Optical data storage media — McDaniel — 311
Primary production scheduling at steelmaking industries — Lee — 231
Soft-error Monte Carlo modeling program, SEMM — Murley — 109
The past and present roles of computer-aided engineering in DASD design — Kan — 615

Monte Carlo methods
Computer-aided 3D tolerance analysis of disk drives — Schlatter — 537
Soft-error Monte Carlo modeling program, SEMM — Murley — 109

Multiprocessors
Integrated medical-image system for cancer research and treatment — Ohbuchi — 185

Operations research
Primary production scheduling at steelmaking industries — Lee — 231

Optical disk drives
Rewritable optical disk drive technology — Asthana — 543

Optical disk technology
Optical data storage media — McDaniel — 311
Rewritable optical disk drive technology — Asthana — 543

Optical science and technology
Optical data storage media — McDaniel — 311

Optimization
Optical data storage media — McDaniel — 311

Optoelectronic device technology
The IBM 3495 robotics and vision system — Kishi — 301

Pattern recognition
A document recognition system and its applications — Yamashita — 341

Automated forms-processing software and services — Gopisetty 211

Performance analysis
Optical data storage media — McDaniel 311

Physics
Modeling the cosmic-ray-induced soft-error rate in integrated circuits: An overview — Srinivasan 77
Terrestrial cosmic rays — Ziegler 19

Physics, theoretical
Nuclear physics of cosmic ray interaction with semiconductor materials: Particle-induced soft errors from a physicist's perspective — Tang 91

Production scheduling
Primary production scheduling at steelmaking industries — Lee 231

Programming, mathematical
Primary production scheduling at steelmaking industries — Lee 231

Recording technology
Optical data storage media — McDaniel 311
Rewritable optical disk drive technology — Asthana 543
Thin-film inductive heads — Chiu 283
Thin-film media—Current and future technology — Johnson 511

Reliability
Critical charge calculations for a bipolar SRAM array — Freeman 119

Robotics
An overview of computer-integrated surgery at the IBM Thomas J. Watson Research Center — Taylor 163
The IBM 3495 robotics and vision system — Kishi 301

Semiconductors
Nuclear physics of cosmic ray interaction with semiconductor materials: Particle-induced soft errors from a physicist's perspective — Tang 91

Simulation
Architectural verification of advanced storage controllers — Soult 623
Computer-aided 3D tolerance analysis of disk drives — Schlatter 537

Soft errors
Accelerated testing for cosmic soft-error rate — Ziegler 51
Critical charge calculations for a bipolar SRAM array — Freeman 119
Field testing for cosmic ray soft errors in semiconductor memories — O'Gorman 41
IBM experiments in soft fails in computer electronics (1978–1994) — Ziegler 3
Modeling the cosmic-ray-induced soft-error rate in integrated circuits: An overview — Srinivasan 77
Nuclear physics of cosmic ray interaction with semiconductor materials: Particle-induced soft errors from a physicist's perspective — Tang 91
Soft-error Monte Carlo modeling program, SEMM — Murley 109
Terrestrial cosmic rays — Ziegler 19

Storage (computer) devices and systems
Rewritable optical disk drive technology — Asthana 543
Serial Storage Architecture — Judd 591
Storage control cache resource management: Increasing diversity, increasing effectiveness — Burton 331

Testing
Architectural verification of advanced storage controllers — Soult 623
Design methodology for IBM ASIC products — Engel 387
Test methodologies and design automation for IBM ASICs — Gillis 461

Testing, accelerated
Accelerated testing for cosmic soft-error rate — Ziegler 51

Testing, chip
Field testing for cosmic ray soft errors in semiconductor memories — O'Gorman 41
IBM experiments in soft fails in computer electronics (1978–1994) — Ziegler 3
Soft-error Monte Carlo modeling program, SEMM — Murley 109
Test methodologies and design automation for IBM ASICs — Gillis 461

Testing, circuit
Design planning for high-performance ASICs — Sayah 431
Test methodologies and design automation for IBM ASICs — Gillis 461

Testing, field
Field testing for cosmic ray soft errors in semiconductor memories — O'Gorman 41

Vatican Library
Toward on-line, worldwide access to Vatican Library materials — Mintzer 139

Virtual reality
Integrated medical-image system for cancer research and treatment — Ohbuchi 185

VLSI
BooleDozer: Logic synthesis for ASICs — Stok 407
Circuit placement, chip optimization, and wire routing for IBM IC technology — Hathaway 453
Design considerations for Digital's PowerStorm graphics processor — Gianos 485
Design methodology for IBM ASIC products — Engel 387
Design planning for high-performance ASICs — Sayah 431
IC technology and ASIC design for the Cray J90 supercomputer — Poli 475
PowerPC AS A10 64-bit RISC microprocessor — Bishop 495

Technology-migratable ASIC library design	Bednar	377
Test methodologies and design automation for IBM ASICs	Gillis	461
The floating-point unit of the PowerPC 603e microprocessor	Jessani	559